

ABSTRACT OF THE DISCLOSURE

An optical amplifier includes an optical amplifying medium, an excitation source which excites the optical amplifying medium, and at least one of a first monitor for monitoring an amplified multiplexed light from the optical amplifying medium and a second monitor for monitoring a multiplexed light input to the optical amplifying medium. An operation amount of the excitation source for the optical amplifying medium is controlled using a monitoring result output from at least one of said first and second monitors.